802.11b/g WLAN Cardbus Adapter

User Manual

Version 1.1

M090403V11

No part of this documentation may be reproduced in any form or by any means or used to make any derivative work (such as translation, transformation, or adaptation) without written permission from the copyright owner.

All the other trademarks and registered trademarks are the property of their respective owners.

Statement of Conditions

We may make improvements or changes in the product described in this documentation at any time. The information regarding to the product in this manual are subject to change without notice.
We assume no responsibility for errors contained herein or for direct, indirect, special, incidental, or consequential damages with the furnishing, performance, or use of this manual or equipment supplied with it, even if the suppliers have been advised of the possibility of such damages.

Electronic Emission Notices

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference.
(2) This device must accept any interference received, including interference that may cause undesired operation.

FCC INFORMATION

The Federal Communication Commission Radio Frequency Interference Statement includes the following paragraph:
The equipment has been tested and found to comply with the limits for a Class B Digital Device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to overcome the interference by one or more of the following measures:
--Reorient or relocate the receiving antenna.
--Increase the separation between the equipment and receiver.
--Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
--Consult the dealer or an experienced radio/TV technician for help.
The equipment is for home or office use.

R&TTE Compliance Statement

This equipment complies with all the requirements of the Directive 1999/5/EC of the European parliament and the council of 9 March 1999 on radio equipment and telecommunication terminal Equipment and the mutual recognition of their conformity(R&TTE).

The R&TTE Directive repeals and replaces in the directive 98/13/EEC. As of April 8, 2000.

IMPORTANT NOTE

FCC RF Radiation Exposure Statement: This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This device has been tested for compliance with FCC RF Exposure (SAR) limits in typical laptop configurations, and this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Table of Contents

INTRODUCTION **1**
1.1 FEATURES 1
1.2 PRODUCT PACKAGE 1
1.3 SYSTEM REQUIREMENTS 1

INSTALLATION OF THE 802.11b/g WLAN CARDBUS **3**
2.1 INSTALLATION PROCEDURES 3
2.2 VERIFYING A SUCCESSFUL INSTALLATION 6

WLAN-G CONFIGURATION TOOL BASICS **7**
3.1 RIGHT-CLICK MENU OF THE TRAY ICON 7
Wireless Radio On 7
Wireless Radio Off 7
Remove Status Icon 7
Wireless Network Status 8
Advanced Configuration 8
WEP Encryption 8
IBSS Channel 8
Country/Domain 8
Version Information 8
3.2 PROGRAM CONTROLS 9
The Status Tab 9
The Configuration Tab 11
The Encryption Tab 12
The Site Survey Tab 14
The IBSS Tab 14
The Domain Tab 15
The About Tab 16

APPENDIX A: TROUBLESHOOTING **18**
DISABLE 802.11b/g WLAN CARDBUS 18
UNINSTALL WLAN-G CONFIGURATION TOOL AND THE CARD'S DRIVER 18
802.11b/g WLAN CARDBUS DOES NOT WORK PROPERLY 21

APPENDIX B: SPECIFICATIONS **22**

Table of Figures

FIGURE 2-1: THE **FOUND NEW HARDWARE WIZARD** DIALOG BOX 3
FIGURE 2-2: THE **WLAN IEEE802.11b/g SETUP** WINDOW 4
FIGURE 2-3: THE **SETUP STATUS** SCREEN 4
FIGURE 2-4: THE **HARDWARE INSTALLATION** DIALOG BOX 5
FIGURE 2-5: THE **COMPLETE** SCREEN 5
FIGURE 2-6: THE **WLAN-G CONFIGURATION TOOL** TRAY ICON 5
FIGURE 2-7: THE **DEVICE MANAGER** DIALOG BOX 6
FIGURE 3-1: RIGHT-CLICK MENU OF THE TRAY ICON 7
FIGURE 3-2: THE **REMOVE WIRELESS STATUS ICON** DIALOG BOX 8
FIGURE 3-3: THE **WIRELESS SETTINGS** DIALOG BOX 9
FIGURE 3-4: THE **STATUS** TAB 10
FIGURE 3-5: THE **CONFIGURATION** TAB 11
FIGURE 3-6: THE **ENCRYPTION** TAB 13
FIGURE 3-7: THE **SITE SURVEY** TAB 14
FIGURE 3-8: THE **IBSS** TAB 15
FIGURE 3-9: THE **DOMAIN** TAB 16
FIGURE 3-10: THE **ABOUT** TAB 17
FIGURE 4-1: THE **DEVICE MANAGER** DIALOG BOX 18
FIGURE 4-2: THE **CONFIRM DEVICE REMOVAL** MESSAGE BOX 19
FIGURE 4-3: THE **ADD OR REMOVE PROGRAMS** DIALOG BOX 19
FIGURE 4-4: THE **WLAN IEEE802.11b/g SETUP** WINDOW 20
FIGURE 4-5: THE **WLAN IEEE802.11b/g SETUP** MESSAGE BOX 20
FIGURE 4-6: THE **MAINTENANCE COMPLETE** SCREEN 21

INTRODUCTION

Being five times faster than the speed of 802.11b network standard devices, the innovative 802.11g standard lets the wireless network become incredibly easier and faster (up to 54Mbps) than ever. Your 802.11b/g WLAN Cardbus surely will bring you into such a high-speed network sphere. This document describes how to install your 802.11b/g WLAN Cardbus, which aims to let your computer communicate with 802.11 networks quickly and seamlessly. Wireless LAN is local area networking without wires, which uses radio frequencies to transmit and receive data between PCs or other network devices. Additionally, wireless LAN is able to configure either independent networks, which is also known as peer-to-peer or ad-hoc network, or infrastructure networks. The former is suitable for small or temporary peer-to-peer configurations, and the later is offering fully distributed data connectivity via micro cells and roaming.

To obtain most benefits your 802.11b/g WLAN Cardbus brings, please read this manual carefully before using it.

1.1 Features

With 802.11b/g WLAN Cardbus, you can:

- establish a wireless connection without the hassles and cost of cabling
- operate Ad-Hoc or Infrastructure mode
- utilize up to 128-bit WEP encryption
- enjoy high-speed data transfer rate up to 54 Mbps
- employ automatic data rate switching which offers maximum reliability, throughput and connectivity
- possess the network's range up to 100 meters indoor and 400 meters outdoor
- monitor and configure the network via the supplied friendly-interfaced application – **WLAN-G Configuration Tool**

1.2 Product Package

Before starting the installation, please make sure the package you purchased includes the following items:

- One 802.11b/g WLAN Cardbus.
- One Setup Wizard CD with User Manual
- One Quick Installation Guide

If any of the items above is missing or damaged, please contact your distributor.

1.3 System Requirements

To properly operate your Card, your computer should meet the following minimum requirements:

- Microsoft Windows 98/98 Second Edition/ME/2000 or Windows XP

- Minimum 5 Mbytes free disk space for installing the driver and the utility program
- 32 MB RAM or above
- A CD-ROM drive
- 300 MHz processor or higher
- Cardbus interface

INSTALLATION of THE 802.11b/g WLAN CARDBUS

It's free and easy for you to install your 802.11b/g WLAN Cardbus and the attached program – **WLAN-G Configuration Tool**. Simply with a few clicks of the mouse, you will succeed the completion of installation.

To have the 802.11b/g WLAN Cardbus operated appropriately, please read and go along with the instructions below carefully. Here, we will illustrate the installation instructions based on Windows XP operating system.

2.1 Installation Procedures

a) Insert the 802.11b/g WLAN Cardbus into your PC's Cardbus slot. The **Found New Hardware Wizard** dialog box will appear because the system has detected the insertion of the Card.

b) In the **Found New Hardware Wizard** dialog box, choose **Cancel**.

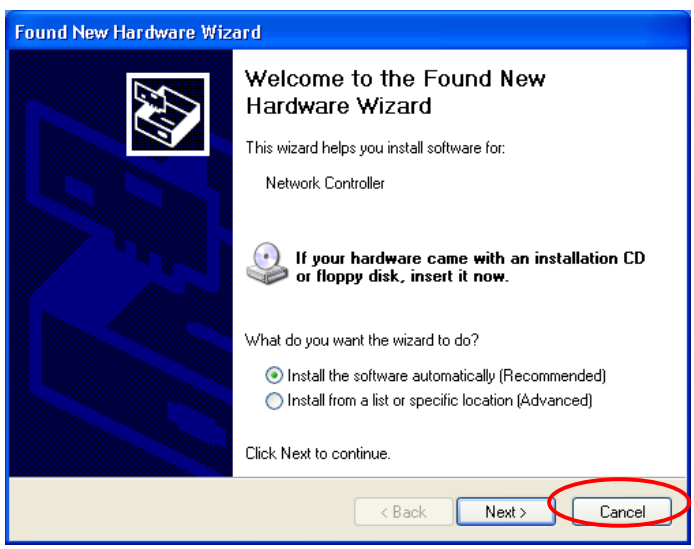
Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
This wizard helps you install software for:
Network Controller
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

Figure 2-1: The **Found New Hardware Wizard** Dialog Box

c) Insert the supplied CD into your CD-ROM drive, and double-click **setup.exe** under the CD's directory to execute it.

d) In the prompted **WLAN IEEE802.11b/g Setup** window, choose **Next** to continue.

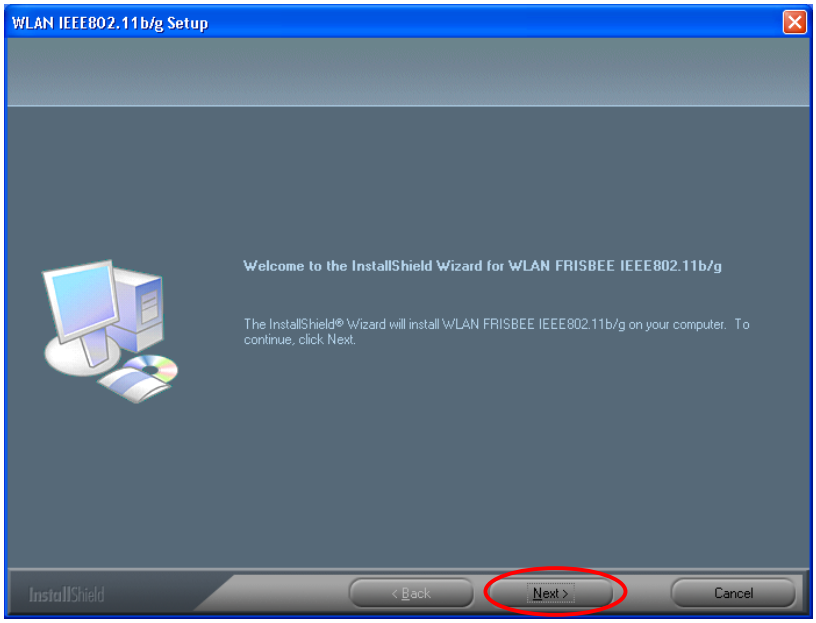
WLAN IEEE802.11b/g Setup
Welcome to the InstallShield Wizard for WLAN FRISBEE IEEE802.11b/g
The InstallShield® Wizard will install WLAN FRISBEE IEEE802.11b/g on your computer. To continue, click Next.
InstallShield
< Back
Next >
Cancel

Figure 2-2: The **WLAN IEEE802.11b/g Setup** Window

e) The system will start to copy the drivers found. It may take a couple of minutes.

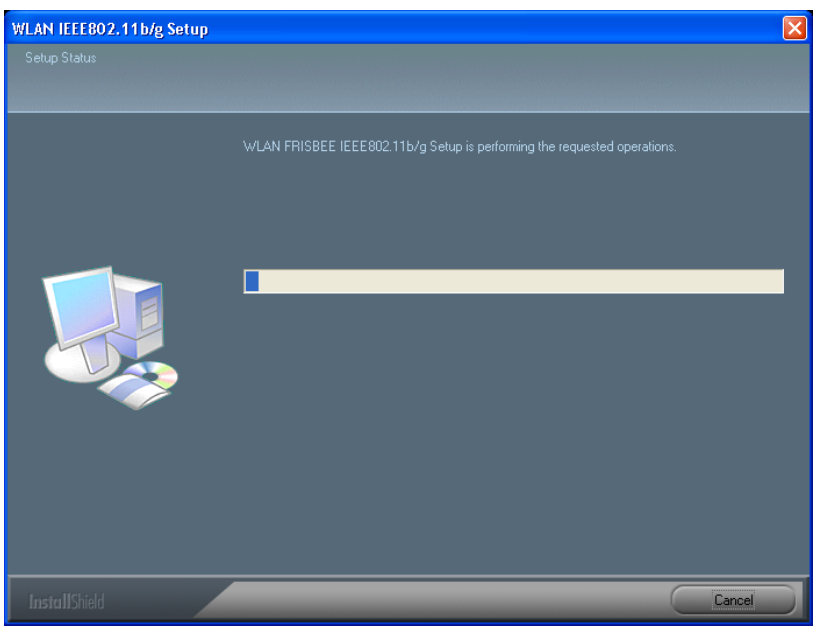

Figure 2-3: The **Setup Status** Screen

f) Windows will notify you that the driver has not passed the Windows Logo testing. Because the Card has been tested to work with Windows XP, please choose **Continue Anyway**.

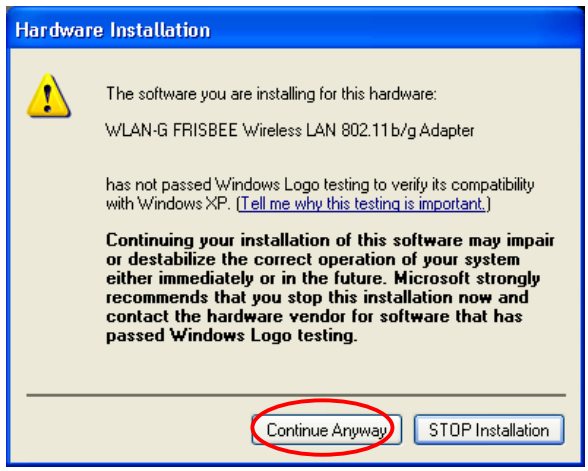
Hardware Installation
The software you are installing for this hardware:
WLAN-G FRISBEE Wireless LAN 802.11b/g Adapter
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation

Figure 2-4: The **Hardware Installation** Dialog Box

g) From the **Install Finished** screen, if you are operating Windows 98 or ME, choose **Yes, I want to restart my computer now**; on the other hand, if your current system is Windows 2000 or XP, choose **No, I will restart my computer later** instead. Then click **Finish** to finish the installation.

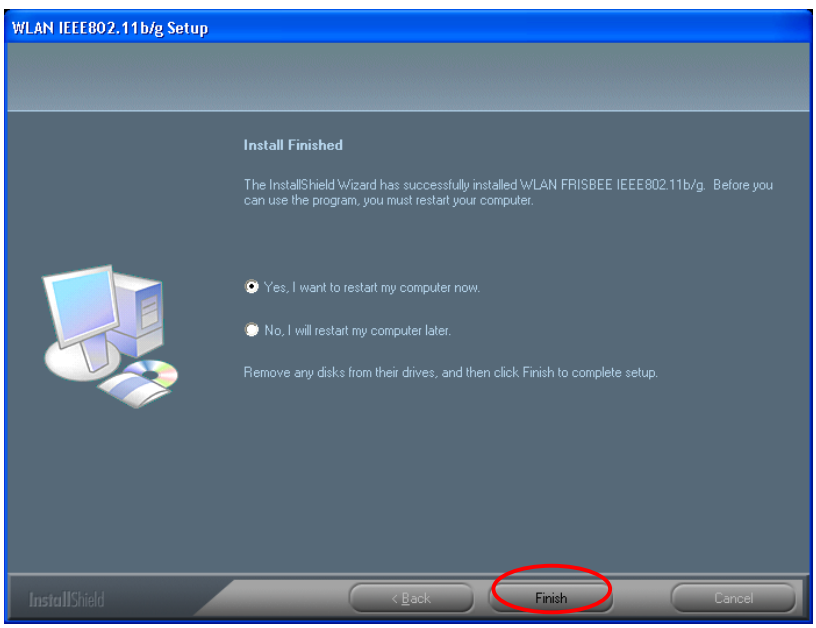
WLAN IEEE802.11b/g Setup
Install Finished
The InstallShield Wizard has successfully installed WLAN FRISBEE IEEE802.11b/g. Before you can use the program, you must restart your computer.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish to complete setup.
InstallShield
< Back
Finish
Cancel

Figure 2-5: The **Complete** Screen

h) Then, you will find the **WLAN-G Configuration Tool** icon appeared in the system tray.

Figure 2-6: The **WLAN-G Configuration Tool** Tray Icon

Double-click the icon to launch the application and open the **Wireless Settings** dialog box, in which seven tabs are contained. Now you may start to monitor and configure

the network via **WLAN-G Configuration Tool**. For more details about the program, please refer to the next chapter -- **WLAN-G Configuration Tool Basics**.

2.2 Verifying a Successful Installation

To confirm that your 802.11b/g WLAN Cardbus is properly installed, please go along with the procedures below.

1. Right-click the **My Computer** desktop icon and choose **Properties** from its menu.
2. In the **System Properties** dialog box, choose **Device Manager** if you are under Windows 98 or ME. If you are operating Windows 2000 or XP, click the **Hardware** tab, and then choose the **Device Manager** button.
3. In the opened window, expand **Network adapters** to find the input device – **WLAN-G FRISBEE Wireless LAN 802.11b/g Adapter**. Right-click over the item and choose **Properties**.
4. From the opened dialog box, on the **General** tab, find the descriptions under the **Device Status** pane to learn if the card is working properly. However, if there's an error message shown, please choose **Uninstall** from the opened menu while right-clicking over the Cardbus item, to which a red or yellow icon is attached beside, in the **Device Manager** dialog box. Then restart your system and go through the installation procedures again.

The following picture indicates a successful installation of the 802.11b/g WLAN Cardbus.

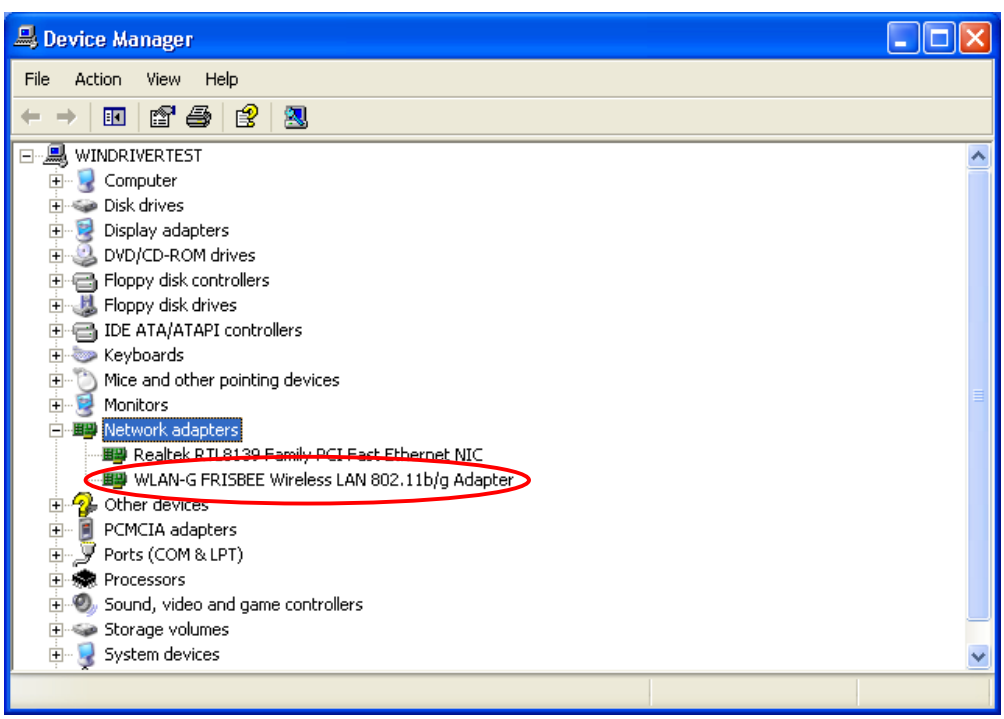

Figure 2-7: The **Device Manager** Dialog Box

WLAN-G CONFIGURATION TOOL BASICS

Once you insert your 802.11b/g WLAN Cardbus, it will operate with the factory default settings. However, you may configure the desired settings by double-clicking the **WLAN-G Configuration Tool** icon, , on the system tray. In the prompted **Wireless Settings** dialog box, there are seven tabs, including **Status**, **Configuration**, **Encryption**, **Site Survey**, **IBSS**, **Domain**, and **About**, and each proffers various functions to assist you in configuring the connection to the networks.

This chapter is divided into the two sections: Right-Click Menu of the Tray Icon and Program Controls. Please refer to the preferred topic to obtain more information and enjoy vast advantages **WLAN-G Configuration Tool** brings.

3.1 Right-Click Menu of the Tray Icon

Right-clicking the **WLAN-G Configuration Tool** icon in the system tray will open a menu as the following picture:

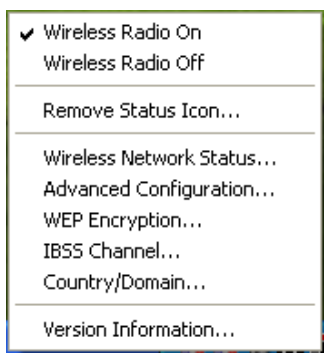

Figure 3-1: Right-Click Menu of the Tray Icon

Check the descriptions below to obtain detailed information about each command in the menu.

Wireless Radio On

Choose the **Wireless Radio On** command to receive the radio frequency signal.

Wireless Radio Off

Choosing the **Wireless Radio Off** command will stop receiving the radio frequency signal.

Remove Status Icon

If you do not wish to have the **WLAN-G Configuration Tool** icon displayed in the system tray, choose this command to open the **Remove Wireless Status Icon** dialog box, and then choose **Yes** to have the icon disappeared. The icon will reappear next time when you restart the computer. If you intend to remove it permanently, put a tick in the checkbox next to the **Remove Status Icon Permanently** option. To launch the utility hereafter, click **Start** on the taskbar, choose **Program** from the menu, and then point to **WLAN-G Configuration Tool** of the submenu of **WLAN-G TOOLS**.

Clicking **No** will undo the removal.

Remove Wireless Status Icon
If you remove the wireless status icon, you must then use the control panel to configure your wireless network.
Do you want to remove the wireless status icon from the Windows status tray?
No
Yes
Remove Status Icon Permanently

Figure 3-2: The **Remove Wireless Status Icon** Dialog Box

Wireless Network Status

Choose this command to launch the **Status** tab of the **Wireless Settings** dialog box. For more details about the tab, please refer to **The Status Tab** in the **Program Controls** section below.

Advanced Configuration

Choose this command to launch the **Configuration** tab of the **Wireless Settings** dialog box. Please refer to **The Configuration Tab** in the **Program Controls** section below to gain more information about the tab.

WEP Encryption

Choose this command to launch the **Encryption** tab of the **Wireless Settings** dialog box. This tab offers you a number of options to maintain the secure management in a wireless LAN environment. See the explanations in **The Encryption Tab** under the **Program Controls** section below for more details.

IBSS Channel

Choosing this command will launch the **IBSS** tab of the **Wireless Settings** dialog box. To obtain more information about the tab, please refer to **The IBSS Tab** in the **Program Controls** section below.

Country/Domain

Choosing this command will launch the **Domain** tab of the **Wireless Settings** dialog box. Detailed information about this tab is presented in **The Domain Tab** of the **Program Controls** section.

Version Information

Choosing this command will launch the **About** tab of the **Wireless Settings** dialog box. The **About** tab reveals general information on your 802.11b/g WLAN Cardbus, including the release version of driver and the **WLAN-G Configuration Tool** and the card's MAC Address.

3.2 Program Controls

When you double-click the **WLAN-G Configuration Tool** tray icon, the **Wireless Settings** dialog box will be prompted as the picture shown below. The application is a window-based program, which is consisted of seven tabs, including **Status**, **Configuration**, **Encryption**, **Site Survey**, **IBSS**, **Domain**, and **About**.

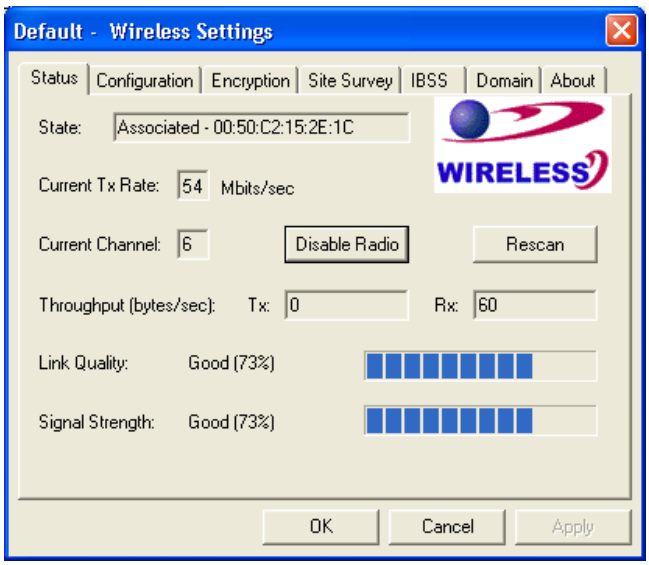

Figure 3-3: The **Wireless Settings** Dialog Box

Check the desired items below to obtain more information about these tabs.

The Status Tab

In the **Wireless Settings** dialog box, click the **Status** tab, and you will see the following display. Here presents the status of your current connection. To close the window, click **OK**.

Note: Choosing the **Wireless Network Status** command from the right-click menu of **WLAN-G Configuration Tool** tray icon will launch this tab too.

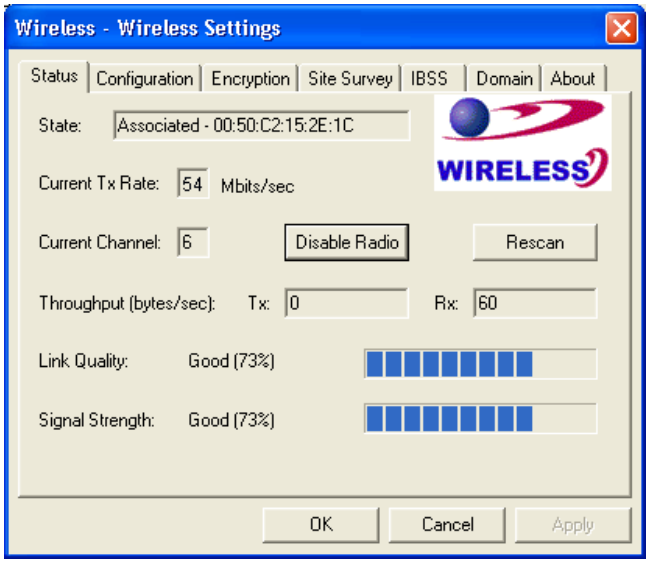

Figure 3-4: The **Status** Tab

Note: The texts before " Wireless Settings" in the caption bar of the dialog box is the profile name of the current connection. Thus, the caption contexts vary according to the connectivity at the given time. From the above picture, the associated profile is named *"**Wireless**"*.

From the window, the general information on the status of currently connected entry is presented. You may want to click the **Rescan** button to reinitiate the scanning process and update the status. Later the result of scanning will be renewed and displayed in the window. If you wish to stop the networking connection, click the **Disable Radio** button to stop scanning. However, if you are already in the disabled radio mode, you will find the **Enable Radio** button here instead. Click **Enable Radio** to regain the link then.

State

Here displays either the MAC Address of the current associated access point in the Infrastructure mode or a BSSID from any computer joining in the Ad-Hoc network.

Current Tx Rate

This feature indicates the transmission rate of the current connection.

Current Channel

Here reveals the current channel operated in the wireless network. Note that the channel number differs as the radio scans any available channels in the Infrastructure mode.

Throughout (bytes/sec)

This feature indicates the rates of transmitting (**Tx**) and receiving (**Rx**) data package of your 802.11b/g WLAN Cardbus within a short period of time; thus, the values vary on a time basis.

Link Quality

Link Quality is based on the percentage of successfully transmitted or received signal of the associated access point beacon within a limited period. The higher the percentage, the better the link quality. The bar graph beside also provides a visual interpretation of the current link quality. It is noted that the **Link Quality** and **Signal Strength** features only apply to the Infrastructure mode. They are inapplicable in the Ad-Hoc mode since data will be transferred from many different computers.

Signal Strength

You may learn the received signal strength of the baseband processor of the beacon signal from the **Signal Strength** bar beside, and it's also presented in terms of percentage. As the signal gets stronger, the signal percentage rate gets higher. It is noted that the **Signal Strength** and **Link Quality** features only apply to the Infrastructure mode. They are inapplicable in the Ad-Hoc mode since data will be transferred from many different computers.

The Configuration Tab

Click this tab to edit different profiles for different network configurations. When finish changing the settings, please click **Apply** to perform the new configuration at last.

Note: Choosing the **Advanced Configuration** command from the right-click menu of **WLAN-G Configuration Tool** tray icon will launch this tab too.

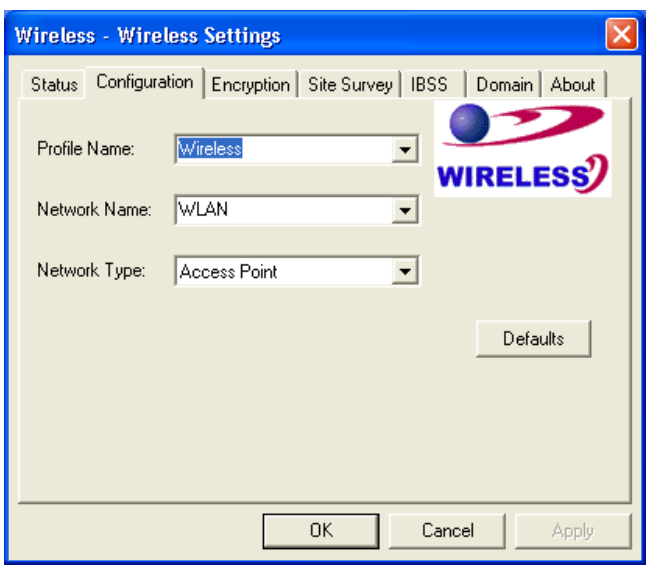

Figure 3-5: The **Configuration** Tab

Profile Name

Enter texts in the **Profile Name** field to identify a new profile. After defining the configurations below, click the **Apply** button to establish the profile. To switch between any existing profiles,

simply click the arrow button at the right of the **Profile Name** field to open the pull-down menu and then select the intended one from it.

Note: You will have at least one profile named **Default**. When selecting any link from the list under the **Site Survey** tab, the common information on this chosen link will be illustrated under the **Configuration** tab.

Network Name

Network Name, also known as SSID (**S**ervice **S**et **Id**entifier), must be unique to distinguish itself as a particular wireless network, while all wireless points in this network area share the same SSID. Type the identical SSID in the **Network Name** field to associate with access points or stations within the specified wireless LAN. To change the **Network Name**, highlight the name in the box, edit a new SSID, and then click **Apply** to save the changes.

Network Type

Two network types are offered here: **Access Point** and **Peer-to-Peer**. Choose the intended type from the two options. The **Access Point** mode, which is also known as the Infrastructure mode, allows you to communicate with a wired network via an access point. If you attempt to operate this mode, you must indicate the identical **Network Name** to make a communication with the intended access point. On the other hand, the **Peer-to-Peer** mode provides you with the so-called Ad-Hoc communication, which means each wireless-equipped computers within a group is able to connect with each other as an independent wireless LAN without the use of an access point. Each station within this Ad-Hoc network has to define the same **Network Name**.

The Encryption Tab

Click the **Encryption** tab to define the encryption settings for a specific profile. It offers you various options concerning the so-called WEP (**W**ired **E**quivalent **P**rivacy) to maintain the secure management in a wireless LAN environment. See the explanations below for more details, and before making an activation of any new settings, click **Apply**. To leave the window, click **OK**. To undo the new settings, select the **Cancel** button.

Note: Choosing the **WEP Encryption** command from the right-click menu of **WLAN-G Configuration Tool** tray icon will launch this tab too.

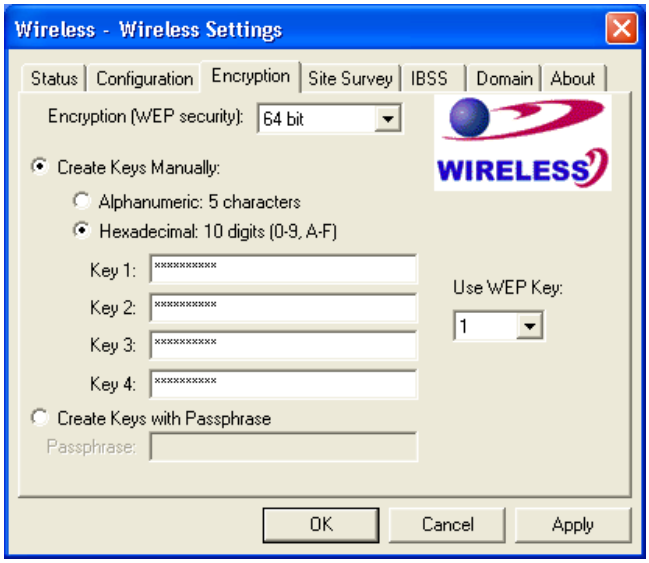

Figure 3-6: The **Encryption** Tab

Encryption (WEP security)

If you choose **Disabled** from the pull-down list, you will have the 802.11b/g WLAN Cardbus communicated with all stations within the same networking community without any data encryption. Otherwise, two key lengths are offered: **64 bit** and **128 bit**. Specify a preferred one from the two, so that you may use the identical WEP key to make a communication with the chosen access point.

Create Keys Manually

Once you set the **Encryption** type as **64 bit** or **128 bit**, you may choose to edit WEP keys manually or create them via the passphrase of your wireless network. If you choose the **Create Key Manually** option, you may directly enter up to 4 WEP keys for use in WEP encryption. To generate the WEP keys, please define the key entry method as **Alphanumeric** or **Hexadecimal** (for hexadecimal characters, only digits 0-9 and letters A-F are valid). Then edit the texts in the blank fields below, from **Key 1** to **Key 4**, as the encryption codes. Note that these codes/keys shall be identical between the wireless nodes within the range and the access point only. Check the table below to find valid key length of each encryption type:

	64 bit	**128 bit**
Alphanumeric	5 characters	13 characters
Hexadecimal	10 digits	26 digits

Use WEP Key

Indicate which WEP key you intend to apply to activate the WEP encryption from the pull-down menu. Make sure that the intended access point on the wireless network shares the same keys.

By default, **Key 1** will be used.

Create Keys with Passphrase

Choose this command when the associated wireless network uses a passphrase to create WEP keys. Enter the passphrase string in the **Passphrase** filed to generate four encryption keys in the **Key** fields above. Note that only letters A-F are valid for the **Passphrase** feature.

Note: When entering the passphrase here, ensure that you have specified an accurate type of the **Encryption (WEP security)** above according to the associated agent's configuration. Otherwise, the inaccuracy will cause any failure of performance.

After finish configuring the **Encryption** features, remember to click the **Apply** button to initiate the new settings.

The Site Survey Tab

First of all, while entering this tab, please do choose the **Rescan** button to reinitiate the scanning process and update the list. Later the result of scanning will be renewed and displayed afterwards. From the offered information, you may learn the general information on the status of current scan lines, including BSSID, SSID, signal strength, the channel number, WEP type, and network type.

In addition, to directly make an association with any site on the list, double-click the intended entry, and you will be led to the **Status** tab then.

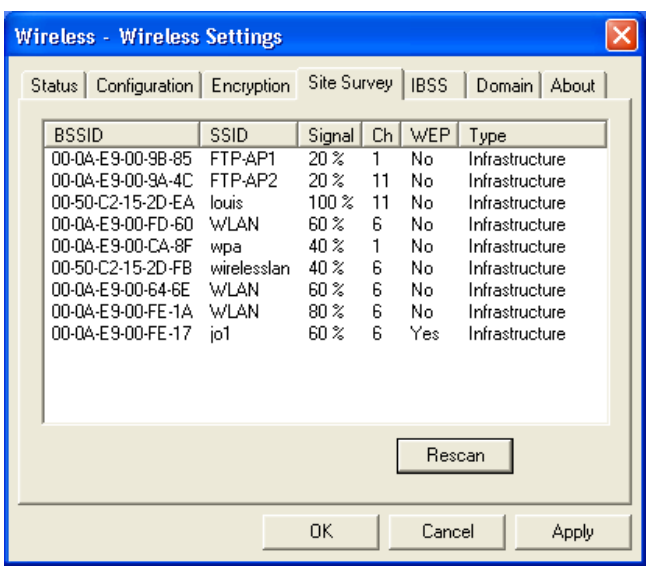

Figure 3-7: The **Site Survey** Tab

The IBSS Tab

If you, as a creator of the wireless network, are communicating with other stations via the IBSS (802.11 Ad-hoc) mode to form peer-to-peer networks, click the **IBSS** (**I**ndependent **B**asic **S**ervice **S**et) tab to specify an operating radio frequency channel from the pull-down list under the **IBSS**

Channel Selection section.

> **Note:** Choosing the **IBSS Channel** command from the right-click menu of **WLAN-G Configuration Tool** tray icon will launch this tab too.

Note that the available channels differ from country to country, and the channel number must be the same between the entries/stations within the range, so that each can communicate with each other. Or you may simply click **Defaults** to automatically determine the channel number for you. When done, click **Apply** to activate the new configuration.

On the other hand, while in the **Access Point** mode, you will find the channel number is the same as the associated access point. Thus, there's no need to manually set the value.

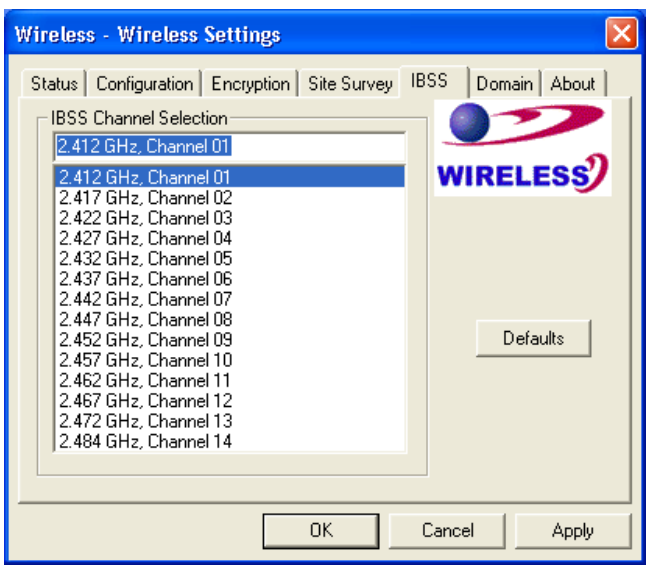

Figure 3-8: The **IBSS** Tab

The Domain Tab

While in the 5GHz range, the network operation may differ from country to country, or domain to domain. This is because the 802.11d protocol was established. To have the operation normally processed, choose the **Domain** tab to change relevant settings.

> **Note:** Choosing the **Country/Domain** command from the right-click menu of **WLAN-G Configuration Tool** tray icon will launch this tab too.

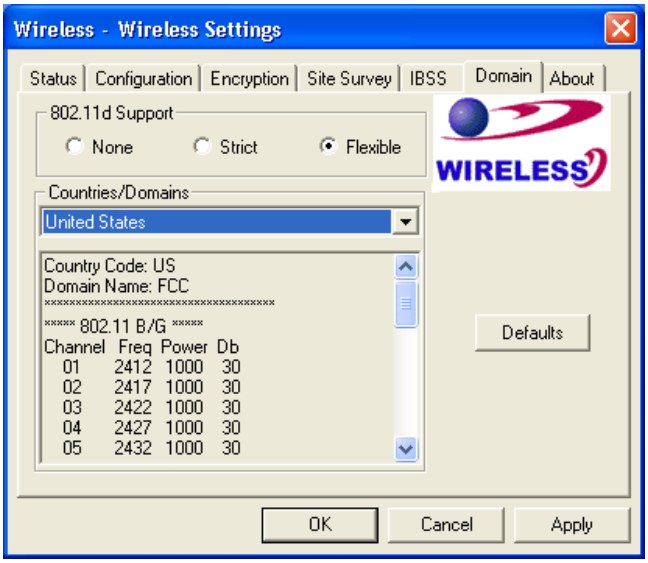

Figure 3-9: The **Domain** Tab

802.11d Support

802.11d Support lets you operate multi-country roaming. To automatically adjust regulatory domain while operating network in different countries, choose either **Strict** or **Flexible** according to your need. If you choose **None**, the task will be terminated.

Countries/Domains

Define the regulatory domain from the drop-down menu of this command according to the country you are located in. More detailed information about the defined country/domain will be listed below afterwards.

When you are done, remember to click **Apply** to let the new settings take effect.

The About Tab

This tab reveals general information on your 802.11b/g WLAN Cardbus, including the following items:

Note: Choosing the **Version Information** command from the right-click menu of **WLAN-G Configuration Tool** tray icon will launch this tab too.

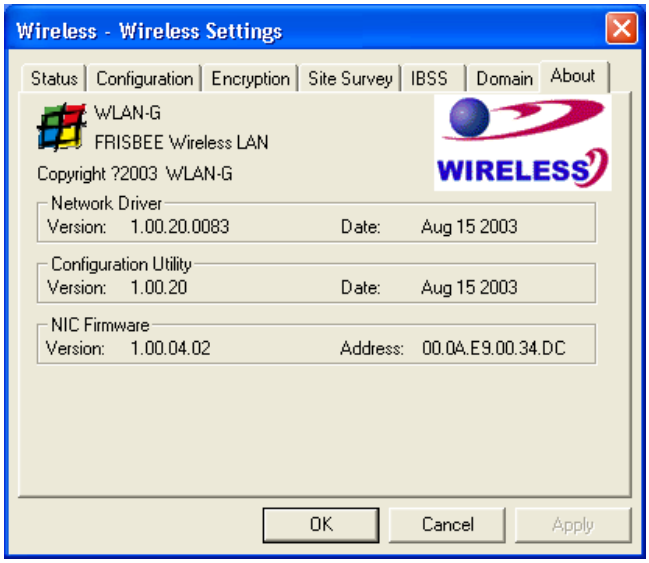

Figure 3-10: The **About** Tab

Network Driver

Displays the current version and released date of the 802.11b/g WLAN Cardbus' driver.

Configuration Utility

Displays the current version and released date of the **WLAN-G Configuration Tool** application.

NIC Firmware

Displays the current NIC card firmware version and the MAC (Media Access Control) address of your wireless card. It is consisted of 12-digit hexadecimal numbers (48 bits in length) to identify your computer's physical address on the local area network.

APPENDIX A: TROUBLESHOOTING

This section provides solutions to problems that you might encounter during the installation and operation of your 802.11b/g WLAN Cardbus. Please refer to the desired topics below and read the description to solve your problems.

Disable 802.11b/g WLAN Cardbus

Supposed you do not need the 802.11b/g WLAN Cardbus to establish the wireless connectivity for any reason, you can directly unplug and remove your 802.11b/g WLAN Cardbus from the Cardbus slot on your computer, or click **Disable Radio** on the **Status** tab of the **Wireless Settings** dialog box. Once the device is removed, the connection to the network stops. Thus, be sure that you have closed all the network applications before processing the removal.

Uninstall WLAN-G Configuration Tool and the Card's Driver

Prior to starting uninstalling, please make sure that the utility is closed, and then go along with the procedures below to entirely uninstall **WLAN-G Configuration Tool** and the card driver.

1. Right-click the **My Computer** desktop icon and choose **Properties** from its menu.
2. In the **System Properties** dialog box, choose **Device Manager** if you are under Windows 98 or ME. If you are operating Windows 2000 or XP, click the **Hardware** tab, and then choose the **Device Manager** button.
3. In the opened window, expand **Network adapters** to find the input device – **WLAN-G FRISBEE Wireless LAN 802.11b/g Adapter**. Right-click over the item and choose **Uninstall**.

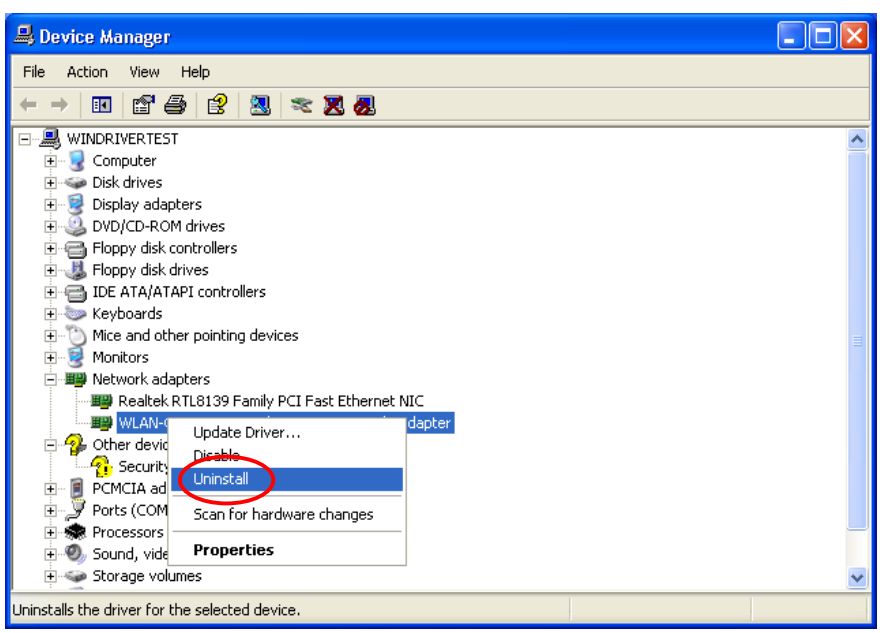

Figure 4-1: The **Device Manager** Dialog Box

4. In the **Confirm Device Removal** message box, click **OK** to proceed with the removal of the hardware.

Confirm Device Removal
WLAN-G FRISBEE Wireless LAN 802.11b/g Adapter
Warning: You are about to uninstall this device from your system.
OK
Cancel

Figure 4-2: The **Confirm Device Removal** Message Box

5. Click **Start** on the taskbar and choose **Control Panel** from the **Settings** menu.
6. Select **Add or Remove Programs** to open the dialog box shown as below.

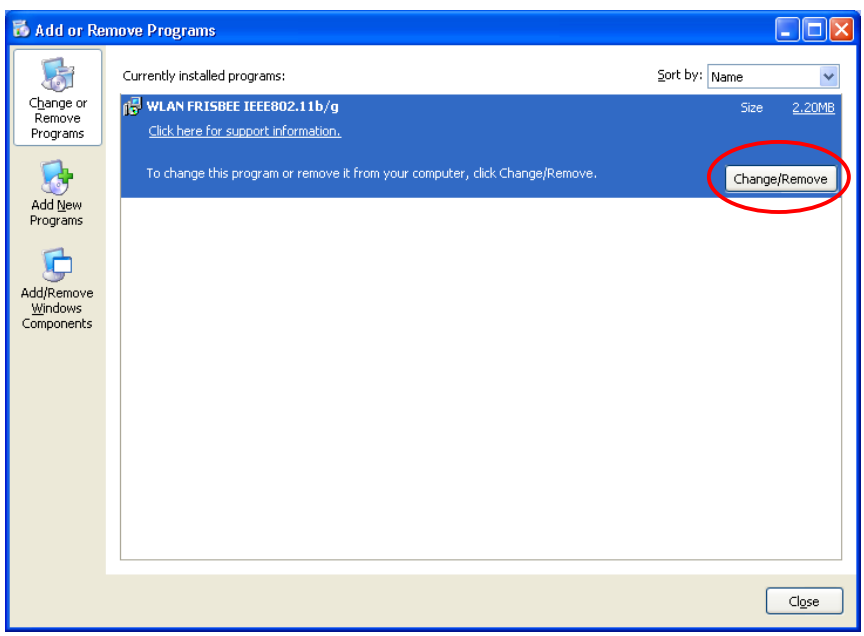

Figure 4-3: The **Add or Remove Programs** Dialog Box

7. Click the **Change/Remove** button under **WLAN FRISBEE IEEE802.11b/g**.
8. In the prompted **WLAN IEEE802.11b/g Setup** window, choose **Remove** and then click the **Next** button to begin uninstalling the program.

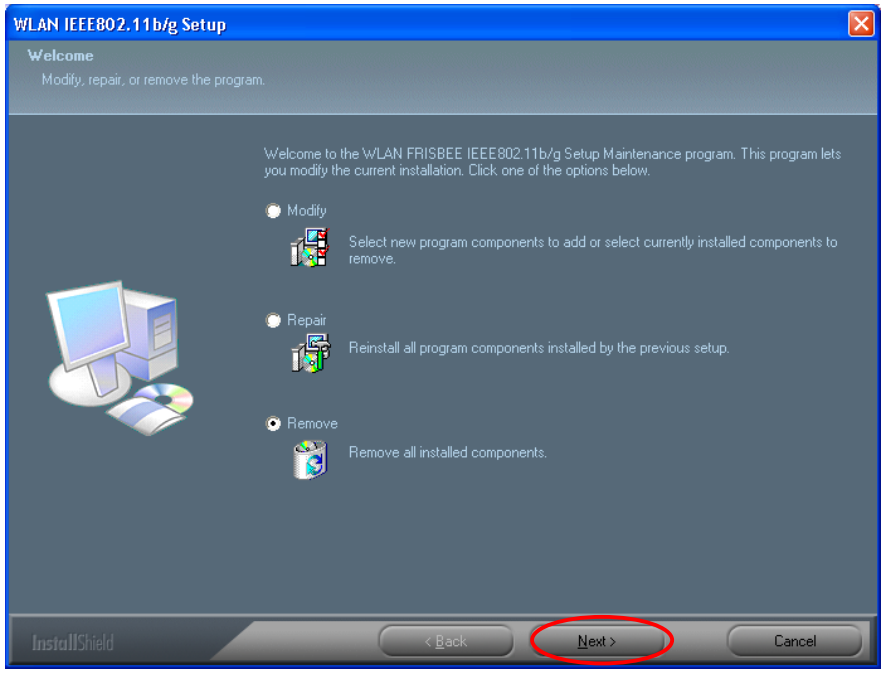
WLAN IEEE802.11b/g Setup
Welcome
Modify, repair, or remove the program.
Welcome to the WLAN FRISBEE IEEE802.11b/g Setup Maintenance program. This program lets you modify the current installation. Click one of the options below.
Modify
Select new program components to add or select currently installed components to remove.
Repair
Reinstall all program components installed by the previous setup.
Remove
Remove all installed components.
InstallShield
< Back
Next >
Cancel

Figure 4-4: The **WLAN IEEE802.11b/g Setup** Window

9. Choose **Yes** when the following message box appears.

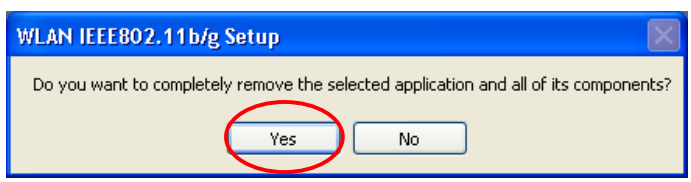

Figure 4-5: The **WLAN IEEE802.11b/g Setup** Message Box

10. From the **Maintenance Complete** screen, choose **Yes, I want to restart my computer now** if you are running Windows 98 or ME; on the other hand, if your current system is Windows 2000 or XP, choose **No, I will restart my computer later**. Then choose **Finish** to entirely complete the removal.

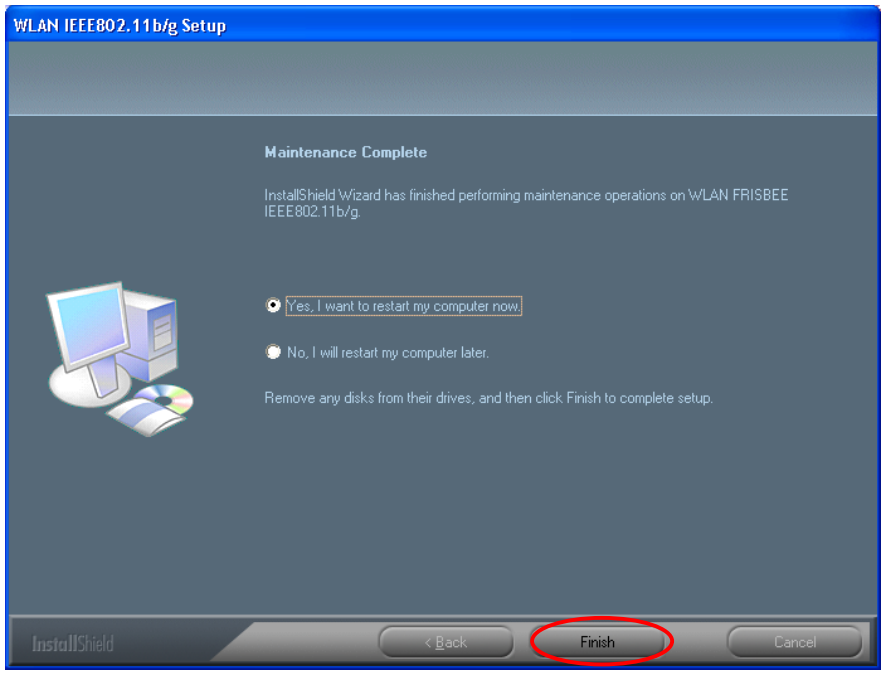
WLAN IEEE802.11b/g Setup
Maintenance Complete
InstallShield Wizard has finished performing maintenance operations on WLAN FRISBEE IEEE802.11b/g.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish to complete setup.
InstallShield
< Back
Finish
Cancel

Figure 4-6: The **Maintenance Complete** Screen

802.11b/g WLAN Cardbus Does Not Work Properly

If this happens, follow the guidelines below.

- Unplug and replug the 802.11b/g WLAN Cardbus into your PC's Cardbus slot.
- Right-click the **My Computer** desktop icon and choose **Properties** to open the **System Properties** dialog box. If you are under Windows 98 or Me, choose the **Device Manager** tab, or if your system is Windows 2000 or XP, click the **Hardware** tab, and then choose the **Device Manager** button. In the opened window, find your Cardbus to see if the installation is successful. If you see a yellow exclamation mark beside the item, please go along with the steps below to reinstall the drivers:

1. Uninstall the software and hardware drivers from your PC. (Please refer to the previous topic for details)
2. Restart your computer and repeat the installation procedures as indicated in Chapter 2: Installation.
3. When finished, open the **Device Manager** window again to verify if the installation is approved. The yellow exclamation mark shall be removed for this time.

APPENDIX B: SPECIFICATIONS

Product Name	802.11b/g WLAN Cardbus
Host Interface	32-bit Cardbus
Standards	IEEE 802.11, IEEE 802.11b, IEEE 802.11g
Frequency Band	2.400 ~ 2.4835GHz (subject to local regulations)
Current Drain	Power save mode=22mA, Standby mode=7mA, Transmit mode=460mA, Receive mode=410mA
Spreading	DSSS (11b), OFDM (11g)
Data Rate	1Mpbs, 2Mbps, 5.5Mbps, 6Mbps, 9Mbps, 11Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 54Mbps
Transmit Power	802.11b≧17dBm 802.11g 6/9Mbps≧17dBm 12/18Mbps≧15dBm 24Mbps≧14dBm 36Mbps≧14dBm 48Mbps≧12dBm 54Mbps≧12dBm
Receive Sensitivity	802.11b 8% FER@1Mbps≦-91dBm 8% FER@2Mbps≦-88dBm 8% FER@5.5Mbps≦-85dBm 8% FER@11Mbps≦-83dBm 802.11g 10% PER@6Mbps≦-88dBm 10% PER@9Mbps≦-87dBm 10% PER@12Mbps≦-84dBm 10% PER@18Mbps≦-82dBm 10% PER@24Mbps≦-79dBm 10% PER@36Mbps≦-75dBm 10% PER@48Mbps≦-69dBm 10% PER@54Mbps≦-68dBm
Modulation	CCK (11b), BPSK, QPSK, 16-QAM, 64-QAM (11g)
Security	64/128 bit WEP Encryption 802.1x, WPA (Windows XP SP1 and Windows 2000 SP4 only)
Internal Antenna Type	Dual Antenna Diversity Switching

Media Access Control	RF activity
Supplied Driver	CSMA/CA with ACK
Warranty	1 year
Temperature Range	0~65°C (Operating)
Humidity	Max. 95% Non-condensing
Operating Range	Open Space: up to 400meters; Indoor: up to 100meters The transmission speed varies in the surrounding environment.
CIS	Customer Defined